

Helical device for conversion of fluid potential energy to mechanical energy

Abstract

This device utilizes a helical baffle inside of generally cylindrical housing to convert potential energy of a fluid to kinetic and/or mechanical energy that can be captured for productive use. The housing's axis is positioned at an angle from horizontal and the fluid is entered into the high end of the device. The helical baffles convert the gravity-induced pressure of the water into a torque moment around the axis of the cylinder causing the helix to rotate. Mechanical energy is then extracted from this rotation and utilized in a productive manner, typically by driving an electrical generator. The implementation of this concept in hydroelectric applications provides substantial benefits over traditional turbine generation in efficiency and reducing environmental concerns.